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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,366	03/04/2002	Gary Lock	5624	8079

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EXAMINER

DIAMOND, ALAN D

ART UNIT PAPER NUMBER

1753

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/031,366

Applicant(s)

LOCK ET AL.

Examiner

Alan Diamond

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 4-6, 13, 14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 4, 5 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

*[Handwritten signature]*

## **DETAILED ACTION**

### ***Comments***

1. The previous indication of allowable subject matter with respect to instant claims 4, 5, and 16 is withdrawn by the Examiner in view of the rejections that are set forth below. Accordingly, the finality of the prior Office action mailed January 24, 2005 is also withdrawn. The amendment filed July 21, 2005 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 16, at line 10, the term "substantially greater" is indefinite because it is subjective. It is not clear how much greater the inter-pair spacing must be than the inter-electrode spacing in order to be considered to be "substantially greater".

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 4, 5, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Talary et al, "Electromanipulation and separation of cells using traveling electric fields,"

J. Phys D Appl. Phys., Vol. 29, pages 2198-2203 (1996). This reference is already of record on the PTO-892 form mailed with the Office action dated May 6, 2004.

As seen in Figure 1 at page 2199, Talary teaches the instant dielectrophoretic (DEP) cell in which particles, e.g., cells, can be characterized, manipulated and separated (see also entire pages 2198 and 2199). In particular, the four electrodes seen in said Figure 1 each has a notional central axis along its direction of elongation has deflections from the notional central axis, the electrode are in register, and the electrodes are serpentine. With respect to claim 4, each of said electrodes in said Figure 1 has a half sinusoidal shape. With respect to claim 5, each of said electrode in said Figure 1 has a "C" shape. With respect to claim 16, there are two pairs of electrodes in said Figure 1. The inter-pair spacing is 10 microns (see the first paragraph at the right column on page 2199). The inter-electrode spacing so as to form a channel in said Figure 1 is 20 microns (see first paragraph at the right column on page 2199). There is means to apply at least one electrical signal to the electrodes (see first paragraph at the right column on page 2199). Since Talary et al teaches the limitations of the instant claims, the reference is deemed to be anticipatory.

#### ***Response to Arguments***

6. Applicant's arguments with respect to claims 4, 5, and 16 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Allowable Subject Matter***

7. Claims 6, 13, and 14 are allowed.


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8. The following is a statement of reasons for the indication of allowable subject matter: The DEP cell in claim 6, wherein the electrode are single half sinusoids connected between straight arms, is exemplified in instant Figure 3d. The DEP cell in claim 13, wherein positions of maximum curvature of the recited sinusoids are arranged along divergent curves, is exemplified in instant Figure 5. The DEP cell in claim 14, is exemplified in instant Figure 6. The DEP cells in claims 6, 13, and 14 are not taught or suggested by the prior art.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Diamond whose telephone number is 571-272-1338. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Alan Diamond', with a stylized flourish at the end.

Alan Diamond  
Primary Examiner  
Art Unit 1753

Alan Diamond  
July 28, 2005